

Name \_\_\_\_\_

**Solving Systems of Equations Review***Solve using substitution or elimination.*

$$1. \begin{cases} x + 4y = 9 \\ x - y = 4 \end{cases}$$

$$2. \begin{cases} 2x + y = -15 \\ -5x + y = 6 \end{cases}$$

$$3. \begin{cases} 8x - 7y = -3 \\ 6x - 5y = -1 \end{cases}$$

$$4. \begin{cases} 3x + 2y = 550 \\ x = \frac{4}{5}y \end{cases}$$

$$5. \begin{cases} \frac{m}{3} + \frac{n}{3} = 2 \\ 2m + 3n = 10 \end{cases}$$

$$6. \begin{cases} \frac{r}{2} + \frac{s}{3} = 1 \\ \frac{r}{4} + \frac{2s}{3} = -1 \end{cases}$$

You MUST place all answers on the lines provided to receive full credit. All work should be shown under the problems or on attached loose leaf.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

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## Practice with square roots and radicals.

*Find the square root.*

1.  $\sqrt{121}$

2.  $\sqrt{1600x^2}$

3.  $\sqrt{\frac{1}{289}}$

4.  $\sqrt{13^2}$

*Estimate the value of the square root. Do NOT use a calculator.*

5.  $\sqrt{15}$

6.  $\sqrt{59}$

7.  $\sqrt{149}$

*Simplify the following square roots.*

8.  $\sqrt{150y^7}$

9.  $3\sqrt{20y^4z^5}$

10.  $6\sqrt{49a^6}$

11.  $5\sqrt{8x^9y^3}$

*Multiply. Reduce all radicals.*

12.  $4\sqrt{8} \bullet 3\sqrt{10}$

14.  $3\sqrt{54} \bullet \sqrt{18}$

15.  $8\sqrt{6a^3} \sqrt{6a^3}$

16.  $(2\sqrt{3} - 5\sqrt{7})^2$

*Divide and simplify. Remember to rationalize the denominator.*

17.  $\sqrt{\frac{4}{5}}$

18.  $2\sqrt{\frac{20}{3}}$

19.  $\sqrt{\frac{30x^4}{28x}}$

20.  $\frac{\sqrt{25y^5}}{\sqrt{15y^2}}$

*Add and subtract. Simplify all radicals.*

21.  $\sqrt{18} - \sqrt{2} - \sqrt{8}$

22.  $5\sqrt{48} - \sqrt{75} + 2\sqrt{12}$

23.  $5\sqrt{3} + 2\sqrt{27} - \sqrt{72}$

*Simplify.*

24.  $\frac{3}{5 - 2\sqrt{7}}$

25.  $\frac{4 + 2\sqrt{2}}{2\sqrt{5} - 3}$

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_

11. \_\_\_\_\_

12. \_\_\_\_\_

13. \_\_\_\_\_

14. \_\_\_\_\_

15. \_\_\_\_\_

16. \_\_\_\_\_

17. \_\_\_\_\_

18. \_\_\_\_\_

19. \_\_\_\_\_

20. \_\_\_\_\_

21. \_\_\_\_\_

22. \_\_\_\_\_

23. \_\_\_\_\_

24. \_\_\_\_\_

25. \_\_\_\_\_

Name \_\_\_\_\_

**Solving Quadratic Equations Review****Solve each equation by factoring.**

1.  $x^2 - 6x + 8 = 0$

2.  $y^2 - 3y = 40$

3.  $4x^2 + 17x + 15 = 0$

4.  $8y^3 + 2y^2 = 15y$

5.  $x^2 - 49 = 0$

6.  $16x^2 + 24x + 9 = 0$

7.  $4x^2 - 25 = 0$

8.  $x^4 - 2x^2 - 8 = 0$

9.  $6x^2 - 26x - 20 = 0$

**Solve each equation using the quadratic formula.**

10.  $x^2 - 4x - 2 = 0$

11.  $3x^2 + 12x + 7 = 0$

12.  $9c^2 + 12c - 1 = 0$

13.  $2x^2 - 3x - 2 = 0$

14.  $-4x^2 + 2x + 3 = 0$

You MUST place all answers on the lines provided to receive full credit. All work should be shown under the problems or on attached loose leaf.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_

11. \_\_\_\_\_

12. \_\_\_\_\_

13. \_\_\_\_\_

14. \_\_\_\_\_